

## North Carolina Select House Committee U.S. Toll Road Projects Successes, Failures and the Reasons Why

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# Agenda

Introduction

Brief History of Tolling in US

New Methods for Delivering toll projects

The Decision to Toll

Reasons for Success and Failure

Case studies

Lessons Learned

Summary and discussion

# History of Tolling in the US

- First toll roads – colonial era – Cumberland Road
- 1<sup>st</sup> Federal Highway Act 1916 – anti toll provision
- Tolling by states/public authorities for Bridges & Tunnels
- Golden Age of Tolling - 1940 to 1955
- Passage of Interstate Highway Act - 1956
- Infrastructure funding needs grow- Old & New Projects
- Tolling Revisited with New Project Delivery Models

## How are toll projects delivered today

Use of Non-traditional Deliver models



Delivery Model	Design Risk	Construction Risk	Operations / Maintenance Risk	Finance Risk
<b>DBB</b> (Traditional)	Public	Public	Public	Public
<b>DB</b> (Short Term)	Private	Private	Public	Public
<b>DBOM/AP</b> (Medium Term)	Private	Private	Private	Public
<b>DBFOM</b> (Long Term)	Private	Private	Private	Private

# Tolling one of many other revenue producing strategies

## Factors to be considered:

Statewide transportation delivery priorities

Ability to use tolling to leverage limited revenue

The economic impact of various revenue models

Procurement process and selection criteria

Possible benefits of P3 project delivery method

Eligibility for Federal Pilot or other Innovative programs under the new FAST Act

## Case Studies

Successful and Failed Public & Private Tolling Projects

# Why Toll projects succeed

- Good project economics
- Accurate traffic and revenue forecasts
- Provide congestion relief, travel time savings & certainty
- Drivers will use the road & willing to pay a toll
- Well defined project scope and cost estimates
- Adequate legal foundation - toll violations etc.
- Early & frequent engagement with all impacted stakeholders in planning phase
- Strong stakeholder, state & local political support and project champion



# Examples of successful public and private toll road projects

- SR 91 San Diego CA ML - Public
- I-595 Express & Port of Miami Tunnel FL Toll – Pvt.
- I-95 Express Lanes FL ML - Public
- I-95 and 495 Express Lanes VA MLs - Pvt.
- I-85 & I-75 GA Toll/MLs –Public Pvt. mix
- CO E-470, Tolls–Public, NW Pkwy, US 36 & I-25 Express Lanes Pvt.
- Texas – NTTA, HCTRA, TxDOT, CTRMA – Public-Pvt. mix

# 95 & 495 Express Lanes - DC regional Network

- I-495 / Transurban
  - 14 miles – 2x2 NB & SB Express Lanes
  - 9 tolling points
  - Trip-based tolling
- I-95 / Transurban
  - 29 miles – 3 Reversible Express Lanes
  - 14 tolling points
  - Trip-based tolling, multiple pricing sections
- Projects form a 40+ mile ML network
- Predictable travel, toll rates locked upon entry, and
- Safety for customers



95/495 Network

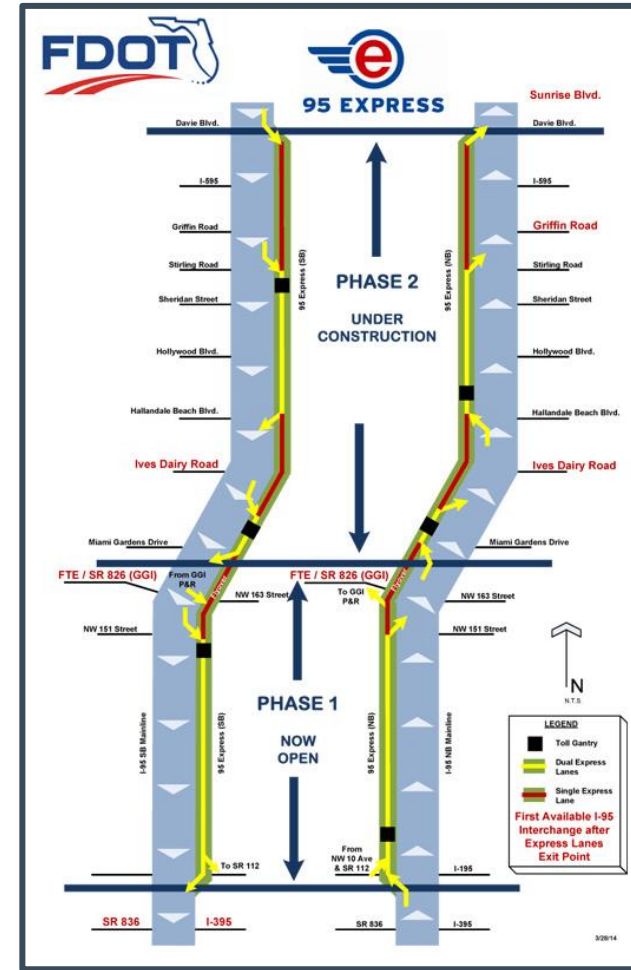


# I-95 Express Lanes - Florida



# FL I-95 Express State-wide

- Two facilities currently open (95X, 595X)
- 95X Phase 2 to open this year
- Several others under construction, design, or planning
- Issues:
  - Expanding to longer corridors
  - Interconnecting systems
  - Consistency
    - Roadway design / signage
    - Customer perspective
    - Management software
    - Tolling system
    - Customer service



# Georgia SRTA



- I-85: Double white line separated HOT lane
  - 15.5 miles
  - Signage concept: “Next” and “Last” destinations are displayed.
- I-75: Barrier separated reversible express lane
  - 12 miles Entry/Exit tolling scheme
  - Signage concept: “Next” and “Last” destinations are displayed.
- Northwest Corridor: Barrier separated reversible express lane
  - 30 miles Entry/Exit tolling scheme
  - Signage concept: “Next” and “Last” destinations are displayed.
- Scalable signing solution for future extensions, regional consistency



- I-25 (multi-segment tolling strategies)
  - 7 Segments
  - Segment 1, reversible in operation (5 miles, 1 TP)
  - Segment 2, directional, under construction (5.5 miles, 3 TP)
  - Segment 3, directional, planning/design (~6 miles, 3 TP)
  - Zone-based tolling concept , TOD, HOV2+, AVI & LPT
- I-70 West
  - 10 Miles, peak-tolled shoulder lane, ends in Twin Tunnel
  - Only eastbound, directional, under construction
  - Zone-based tolling strategy, TOD, AVI & LPT
  - Three tolling points, two ingress points, one egress
- US-36
  - 10 Miles, directional, connection with I-25 ML
  - Under construction
  - Segment-based tolling strategy, TOD, AVI & LPT

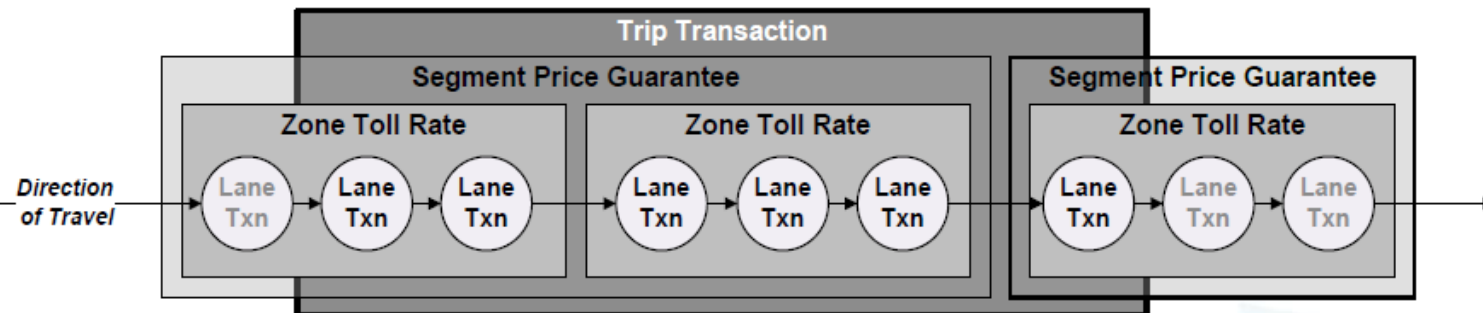
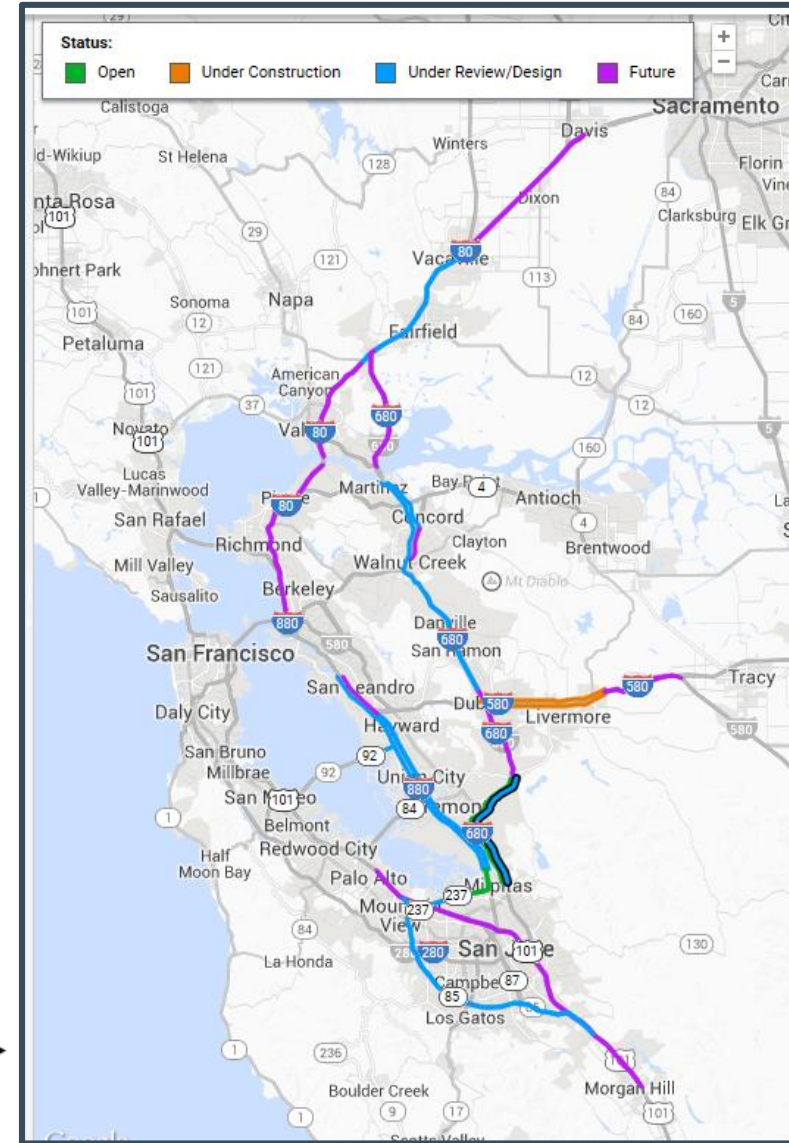


## ATKINS

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- The map illustrates the North Texas TEXpress Lanes System, highlighting several key projects and their phases:
- NTE PROJECT** (Orange line): Open, Pay by shape and size.
  - DFW CONNECTOR** (Blue line): Open, Pay by axes.
  - LBJ PROJECT** (Orange line): Phases 1 and 2 Open, Phase 3 Opens December 2015, Pay by shape and size.
  - SH-183 PROJECT** (Brown line): Opens 2018.
  - NTE 35W PROJECT** (Green line): Phase 1 Opens 2017, Phase 2 Opens 2018, Pay by shape and size.
  - I-30 PROJECT** (Red line): Opens October 2015, Pay by axes.
  - I-35E PROJECT** (Purple line): Opens 2018, Pay by axes.
- The map also shows major highways (Interstates 30, 35W, 35E, 635, 820, 75, 121, 114, 183, 360, 287, and Loop 12), toll facilities (DNT, PGBT, TOLLS), and geographic locations (Denton, Tarrant, Dallas, Downtown Fort Worth, Downtown Dallas). A north arrow is present in the top left corner.

# MTC: I-689/I-880 corridors

- 130 lane miles
- 75 tolling points
- 52 VTMS Signs
- 75 TMS (MVDs)
- 5 Hubs
- Corridor/Segment/Zone
- Overall ML tolling comments:
  - Legislation to convert HOV to Express Lanes
  - Various number of zones make up segments based on geometry
  - Segments are sized based on exit locations and traffic volumes

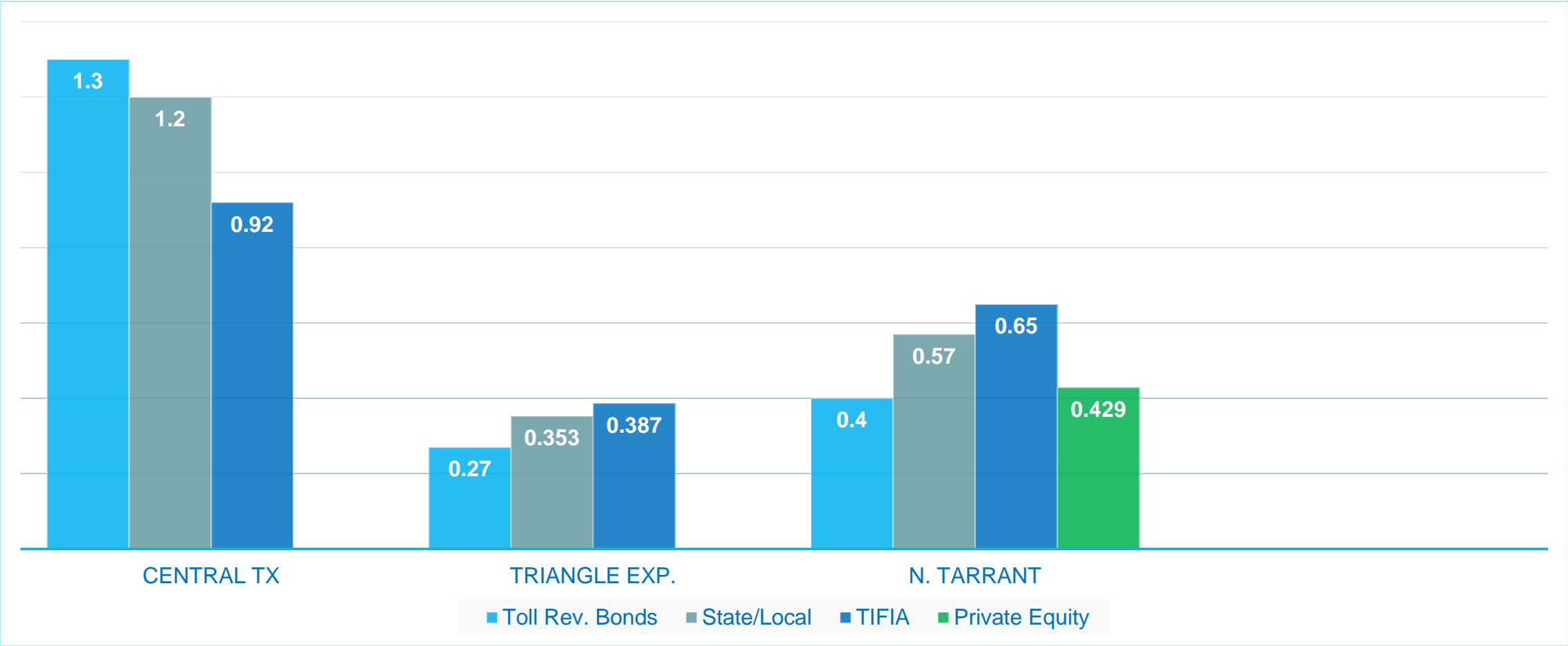




# Funding Sources for Toll Roads

# Examples of other project capital (\$B) Sources

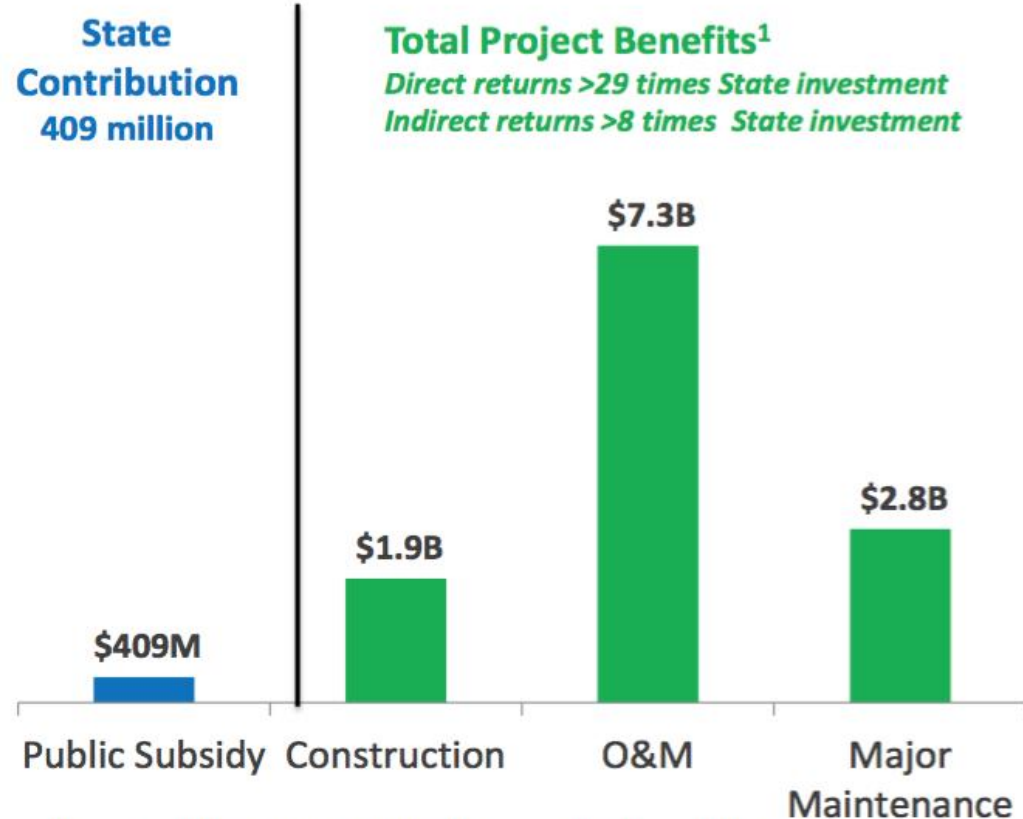
Toll revenue bonds, State/Local, TIFIA & Private Equity



# 495 Express Lanes VA

## P3 Purchasing Power

### I-495 RETURNS ON STATE INVESTMENT



1. Operations, Maintenance and Major Maintenance values represent sum of budgeted future expenditures (nominal) over the remaining Concession term

2. Dr. Stephen Fuller, George Mason University, "The Impact of Construction Outlays for the Capital Beltway HOT Lanes on the Economies of Fairfax County, the Washington Metropolitan Area and the Commonwealth of Virginia", November 2008.

### Economic Benefits

- Generated \$3.5B in economic activity<sup>2</sup>

### Risk Transfer Benefits

- No public sector risk of construction cost overruns
- Private partner incurs significant penalties for late completion
- Full apportionment of technology, delivery, integration, testing, commissioning and opening risk to private partner
- Full apportionment of revenue risk to private partner with revenue sharing opportunities



# 95 Express Lanes VA

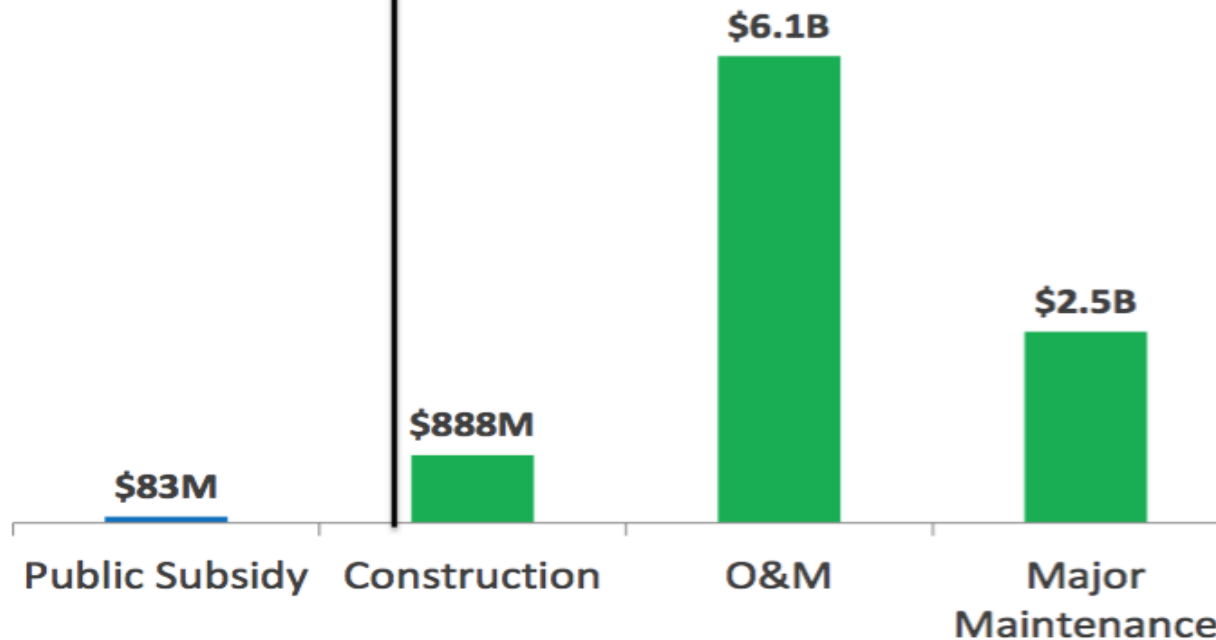
## P3 Purchasing Power

### I-95 RETURNS ON STATE INVESTMENT

#### State Contribution

#### Total Project Benefits<sup>1</sup>

*Direct returns >110 times State investment*  
*Indirect returns >18 times State investment*



#### Economic Benefits

- Generated \$1.8B in economic activity<sup>2</sup>

#### Risk Transfer Benefits

- No public sector risk of construction cost overruns
- Private partner incurs significant penalties for late completion
- Full apportionment of technology, delivery, integration, testing, commissioning and opening risk to private partner
- Full apportionment of revenue risk to private partner with revenue sharing opportunities

1. Operations, Maintenance and Major Maintenance values represent sum of budgeted future expenditures (nominal) over the remaining Concession term  
2. Dr. Stephen Fuller, George Mason University, "Economic Impact of Construction Outlays for the 95 Express Lanes on the Commonwealth of Virginia, the Washington Metropolitan Area, and the Local Jurisdictions", August 2012.

# Why Some Toll Projects Fail

## Contributing Factors

Overly optimistic Traffic & Revenue Projections

Overvalued or unrealized local real estate & business development

Overleveraged Financial Structure – Debt to Equity ratio too high

Lack of compelling need for project – desirable but not essential

Higher than expected costs – Lack of diligence on cost analysis

Underestimated environmental impacts

**Demand forecasting is a key vulnerability**

# Public & Private Toll Roads that have Failed

## **SH 130 Austin TX – Owner SH 130 Concession Co. LLC**

41 mile section of SH 130 corridor Financed 2008, Opened 2012

File for bankruptcy 2016 \$1.1B debt

## **Indiana Toll Road – owner ITC Co.**

157 mile roadway – Northern Indiana \$4B concession entered into 2005

Filed for Bankruptcy 2014 Debt \$6B Purchased by IFM \$5.71B

## **South Bay Expressway – owner South Bay Expressway LP**

9.2 miles Filed for bankruptcy 2010 Debt \$510M Purchased by SANDAG For \$341M

## **Pocahontas Parkway – owner 63-20 non-profit corp.**

8.8 miles – Richmond, VA 99 year Concession 2006 – \$450M debt assumed by Transurban

Transfer made in lieu of bankruptcy 2013, Concession sold again in 2014

## **Dulles Greenway VA owner – Macquarie**

2005 purchased by Macquarie - \$615M debt assumed

## **Greenville Southern Connector SC owner 63-20 non-profit corp.**

Debt \$500M Filed for Bankruptcy 2010

## **Foley Beach Express Toll Bridge – Owner American Roads**

5 Assets -Filed for bankruptcy 2013 Debt \$830M

## Why Consider a P3?

# Benefits of public private partnerships

- Leverage private investment to enable major projects
- Accelerate delivery of major transportation improvements
- Shift key risks to private sector, away from taxpayers
- Deliver on-time, on-budget at rates higher than traditional projects
- Access private sector skills, innovation
- Preserve state debt capacity and protect credit rating
- Shift long-term operations and maintenance responsibilities
- Create jobs and boost the economy
- Public retains the benefit of the project even if Concessionaire defaults



# Lessons Learned

- Toll Projects and particularly P3's need to be considered on a project by project basis
- Tolling and P3s are not a means of delivering non-feasible projects
- The P3 model is an effective, value for money procurement method but only for the right projects
- Most successful recent toll and P3 projects require and have included:
  - Good project economics based on sound screening factors
  - Some public assistance typically in the form of TIFIA loans, PABs or availability payments
  - A fair protection of the public % while giving a reasonable return to the private sector
  - A proper allocation of risks
  - Delivery of “good value” to each side with a focus on long term mutual goals
  - **Knowledgeable participants on both sides of the transaction**

## Questions

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